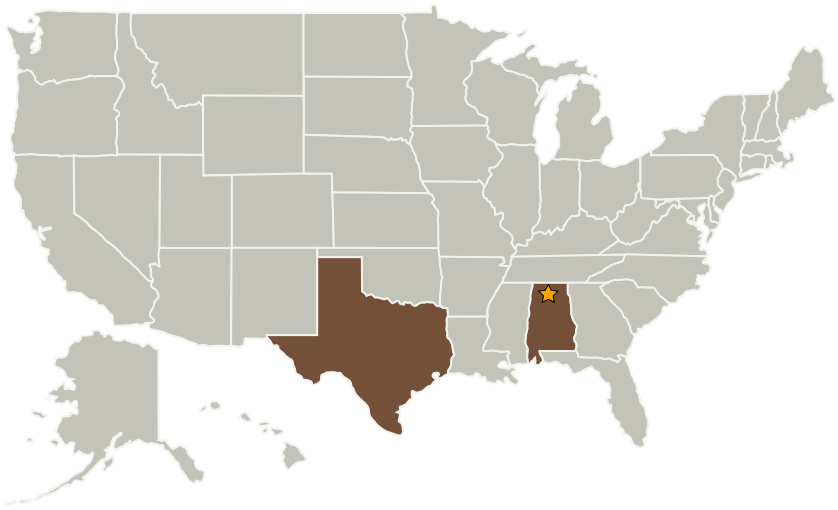
Radiation Hard Multi-Layer Optical Coatings, Phase I

Completed Technology Project (2008 - 2008)

Project Introduction

Next generation space telescopes require advanced optical coatings to provide low loss transmission of light in a variety of spectral ranges and protect optical components from damage in a space environment. In this SBIR program Nanohmics proposes to examine uses of amorphous nitrides and oxides as a high quality, long lived coating for production of wide-acceptance angle IR anti-reflection and band-pass coatings on optical components. Amorphous nitrides are hard, flexible wide-bandgap semiconductor materials that can be used as an optical coating. Alternating layers of high index nitrides such as AlN combined with low index oxides such as SiO2 can be used to make good wide acceptance angle anti-reflective coatings for a variety of optical components.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Marshall Space Flight Center(MSFC)	Lead Organization	NASA Center	Huntsville, Alabama
Nanohmics, Inc.	Supporting Organization	Industry	Austin, Texas

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Marshall Space Flight Center (MSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Alabama	Texas

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Keith D Jamison

Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  - TX12.1 Materials
    - TX12.1.5 Coatings